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EFFICIENCY OF B2B BILL PAYMENTS IN THE U.S.

– Case: Checks and an organization in a foreign
environment

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This thesis focuses on the business-to-business (B2B) check payment process and outlines the most commonly used B2B bill payment methods, processes and systems in the United States of America (US). The purpose of this thesis is to provide information on American B2B payment instruments, from which especially a check is different from Finnish payment instruments, and hence describe how a finance office of a Finnish government organization X, where the staff is Finnish, has succeeded in integrating the U.S. modus operandis into its operational environment in the United States.

The theoretical framework of the research is based on the open systems theory, bill payment supply chain and literature reviews. The open systems theory studies an organization as an open system, which interacts with its environment and absorbs, acts and responds to external factors. The theory refers to an organization's ability to identify, adjust and use knowledge from its external factors and subsystems. With the open system approach, organization X's ability to recognize and apply new information and technologies is studied through the organization's specific and general environments. The supply chain approach is applied to the accounts payable (AP) process and the check payment process. Payment systems operate on the open loop model and also are studied from the supply chain perspective.

The general part explains the automated clearing house (ACH) network, which is the most important payment system in the United States regarding B2B payments. Furthermore, the payment instruments i.e. check, Bill Pay and ACH transfer are described, including the organizations and regulations behind them. The findings shall, with theoretical background, create a framework for Finnish organizations to understand the challenges generated by culturally and technologically different environmental factors and what the payment culture is like in the United States.

The study is based on a single case study, which is the result of observations that I made when I worked at the finance office of organization X in the United States. The applied part, my thoughts and knowledge, is a discussion of the theory. Therefore, the improvement suggestions for X's current procedures are strongly based on my experience and own point of view.

KEYWORDS:

Payment, check, open system, organization, environment, ACH.

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LIST OF ABBREVIATIONS

ACH	Automated Clearing House
AP	accounts payable
B2B	business-to-business
B2P	business-to-person
Bill Pay	Online banking payment service that is a substitute for a regular paper check but acts the same way
Bill payment	Payment based on receipt, typically a monthly bill
BIS	Bank for International Settlements
Check 21	the Check Clearing for the 21 st Century
EPN	electronic payment network
the Fed	the Federal Reserve, the central bank of the United States
NACHA	National Automated Clearing House Association
Online Bill Payment	Bill payments initiated over the Internet via a bank or biller website and processed by bill payment aggregators and consolidators (Federal Reserve System 2014, 39)
SME	small and medium-sized enterprise
UCC	Uniform Commercial Code
the U.S.	the United States of America

1 INTRODUCTION

1.1 Background and motivation

The purpose of this research is study how a finance office of Finnish government organization X (organization X or X) in the United States of America (the U.S.) has succeeded in integrating American modus operandis, i.e. bill payment processes, especially paper checks and a check payment process, into its operational environment in the United States. The study defines and describes business-to-business (B2B) payment instruments, processes and systems, and how they work in practice in the U.S., including theories and regulations behind them. The focus is on check payment because checks are not used in Finland. In particular, the meaning of a check as a payment instrument and how a check is processed are emphasized because Finnish organizations and people are not familiar with checks. Also, Bill Pay services and automated clearing house (ACH) transfers are briefly handled in this thesis because they, within checks, are the most frequently used payment methods in organization X and, according to Humphrey (Berger et al. 2015, 408), also among business bill payments in the U.S.

The primary source of motivation for this research is my work experience as an accountant in the finance office of X in the U.S. I have gained much practical knowledge and experience in the U.S. payment culture and the challenges it creates for a foreign organization. Bill payments are a substantive factor in today's business operations, which is why I was motivated to do further research on how the payment methods and systems in the U.S. actually work and to discover why it has been so challenging for the finance office of a Finnish organization to adapt to American payment culture. Hence, the observations and the study itself are a result of cultural differences, which are most importantly the result of the fact that American companies are falling behind in banking and payment system technology, and therefore, their bill payment procedures differ from the Finnish payment procedures.

1.2 Questions and objectives

This thesis has two objectives. First, point out the factors making the payment processes challenging in the U.S. from the Finnish point of view, and second, find ways how an organization can efficiently develop its payment processes when its operational environment is changing. The objectives are studied through a research question (RQ) that has two subquestions (RSQ).

- RQ: How has the finance office of Finnish organization X in the U.S. succeeded in integrating American modus operandis, especially a check payment, into its operational environment in the United States?
- RSQ 1: How can an organization gain efficiency in a foreign environment?
- RSQ 2: How to shorten a payment supply chain?

This study shall provide important information for accountants currently working at organization X with the means to gain the finance office's efficiency and knowledge base on U.S. payment culture as a whole. This study guides the readers to a better understanding of why it has been challenging for X to adjust to American payment culture. What factors are behind a payment method choice? This study may also be useful for Finnish companies who already operate in the United States or are thinking about entering the U.S. market and practice the kind of actions that require a company to open a bank account in the U.S. and pay their American originated invoices using American bank account and payment systems.

The theoretical framework of the research is based on the open systems theory and supply chain management. Organizational studies, behavior and theory describe how individuals within an organization interact with each other and how they absorb, act and respond to the external factors, and how an organization as an open system reacts and functions with other systems and their subsystems in a larger environment. The open systems model, a study of organization theory, creates a general theoretical base for this study. It refers to an organization's ability to identify, adjust and use knowledge from external systems. While the open systems theory is applied to serve the reader from organization X's perspective in the integration process of the U.S. operation environment and the practitioners, such as banks and payment systems, organizational behavior studies are applied to help the reader to study the integration process of an organization's environment and its cultural norms and differences from

interorganizational, individualistic, perspective. Since organization X's operations are controlled by its environment and X is in a constant interaction with its environment, such as payment systems, it is an open system organization.

Furthermore, supply chain model is applied to an accounts payable process of X in order to describe the cycle of an invoice in organization X and a check payment process in order to describe what the route of the check is from a payer to a payee. Payment systems are studied as open loop systems, which demonstrate how businesses, banks and payment systems interact with one another. Finally, the efficiency of payments is analyzed by applying and modifying the theories into practice.

The study is based on a case study of an organization in a foreign environment, which describes how organization X's finance office survives in terms of Finnish regulations, laws and cultural expectations and norms and American systems, suppliers and payment related resources that all are X's environmental factors based on the open systems theory. Organization X is regulated by Finnish government norms, laws and regulations, which were left out from this context. Furthermore, the more detailed information regarding nature of organization X's invoices and payments and the organization itself were also left out from this context, according to X's request, because some of the information is considered sensitive.

The case study is the result of observations that I made when I worked at a Finnish government organization X in the United States. The applied part, my thoughts and knowledge, is a discussion of the theory. Therefore, the proposals for improvements for X's current procedures are strongly experienced from my point of view. The collected data is a mix of primary and secondary data. The primary data is based on my knowledge regarding the American work environment and payment culture. The secondary data is mostly collected from books and online publications that support the theories and the case study.

1.3 Structure

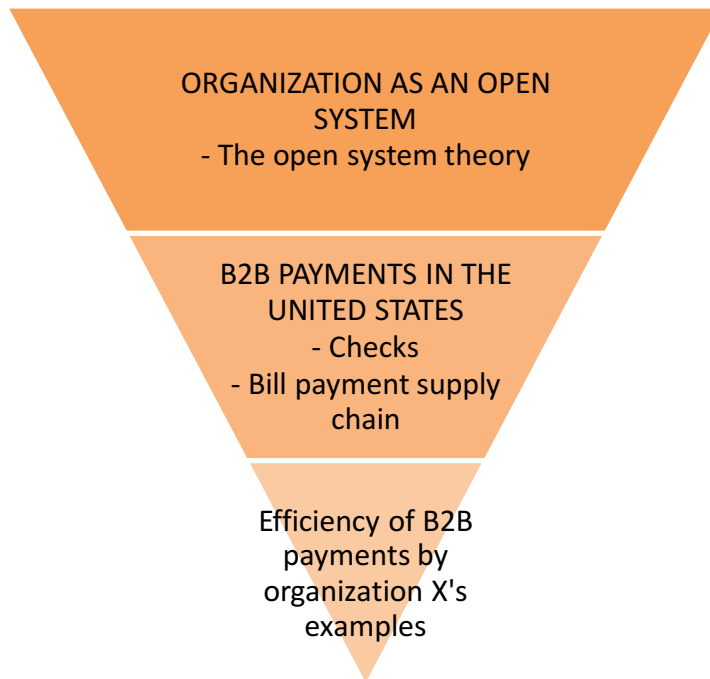


Figure 1. Structure of the thesis.

This thesis consists of a theoretical and an empirical section. The study describes how the open systems theory is experienced from the organization-wide level. This means studying how the environmental forces of an organization are experienced by the organization. How is the entity of American payment culture experienced by organization X?

Chapter two focuses on describing how an organization can be studied as an open system through the open systems theory. “Open system organization” means that an organization can be seen as an open system, which means that it is in a constant interaction with its environment and dependent on its external network and resources.

Chapter three describes the most useful and the most often used B2B payment instruments and systems in the United States. The concentration is on a check payment. The meaning of a check and a check payment process are extensively explained in this chapter. The check payment cycle from a payer to a payee is studied from the supply chain approach.

Chapter four tells how the open systems theory is applied to organization X's finance office and its environment, the external factors affecting on its operations, such as US payment systems and methods and Finnish regulations, through Aquinas' five environmental factors. In this chapter, an adaptation of supply chain based system model is applied to accounts payable (AP) process of X. In this chapter I describe the kind of challenges X has faced and how it has overcome them. How X has already gained efficiency and how it could become even more efficient in its payment processes.

2 ORGANIZATION AS AN OPEN SYSTEM

2.1 Organization

Organizational studies, including organizational behavior and organization theory, explain how individuals within an organization interact with each other, how they absorb, act and respond to, the external factors, and how an organization as an open system reacts and functions with other systems and their subsystems in a larger environment. Organizational studies help the reader to understand how organization X and its actions can be seen through environmental factors. Mitroff and Pondy (1979) suggest that organizational studies can be segmented to a micro and a macro branch. The micro branch, organizational behavior, is a study of individual, interpersonal and intergroup behavior, whereas a macro branch, organization theory, concerns organization-wide aspect of an organization and interaction with an organization's environment. (Mitroff and Pondy 1979, 4-5.)

An organization is a unit, a group of people, who work together towards common objectives, observing common rules in order to achieve common goals (Reference for Business 2016). Jang (2016) states that organizational culture builds upon many factors such as the external culture in which an organization resides, including technologies, educational background of leaders, and employees. The rules, authority and norms of rational behavior of organizational culture are often controlled by cultural norms, values, beliefs and assumptions. Knowledge of an organization's structure, such as information systems, technology and goals, and behavior, are important in order to understand an organization's patterns of assumptions to varying circumstances. (Jang et al. 2016, 293-294.) Culture in an organization is a reflection of strong stability in the group (Jang et al. 2016, 305).

2.2 The open systems theory

In organizational studies, organizations are studied from three perspectives as rational, natural and open systems. "Open systems perspective" means that organizations can be perceived as systems that are dependent on each other and the wider environments surrounding them. (Jang et al. 2016, 4.)

In reference to Querrec (2011a, 6), a system is composed of united mechanisms that work together towards a common goal. Thus, an organization can be considered to be a system itself. Systems operate in larger environments and have certain boundaries, which mark the interface between a system and its environment. Systems theory, therefore, means the interaction between components within systems and its purpose is to improve and analyze an organization's processes. Even the simplest system involves converting inputs, such as data, into outputs, such as information. (Querrec 2011a, 7 and 10.) The conversion of inputs into outputs can simply be called a process or a throughput. Querrec (2011a, 10) also mentions that systems can be made up of subsystems, which can be treated as systems, whose environment there again includes other subsystems.

The open systems theory, a study of organization theory, refers to an organization as an open system and its ability to identify, adapt and use knowledge from external systems. It creates a framework for an organization as a means to explain how an organization, as a complete unit, interacts with its external environment. In the 1960s, open systems theory gained much support and displaced the rational and natural theories, through which organizations and their environments are considered as separate and closed systems with clear borders (Davis and Scott 2016). According to Mitroff and Pondy (1979, 3-4) James Thompson's open systems model (1967) is unquestionably one of the most well-known and reexamined open systems studies of all times.

Whereas closed systems have boundaries, so do open systems, although not so visible. Pfeffer and Salancik (Davis and Scott 2016) state that individuals within organizations are only enclosed with certain activities and behaviors of an organization's boundaries, not in direct interaction with them. However, many actions have relevance for multiple systems simultaneously. (Davis and Scott 2016.) Each organization and individuals within an organization have their own boundaries that are inconspicuously developed and defined by the actions of an organization and by the actions of subsystems an organization cooperates with. Even open system organizations do not have visible boundaries; their activities are still controlled by many environmental forces. This is a meaningful fact that also makes each open system organization very unique. Therefore, they all need to be studied on an individual basis and not as a group of open systems. This highlights the role of an organization's

environment, not only when analyzing an organization itself, but when analyzing the efficiency of an organization.

2.3 Organization's environment

Schutt (1986, 20) states that "- - each individual or organization that affects an organization, no matter how remote in space or time, is part of the organization's environment (Pfeffer and Salancik, 1978:12)." In this sense, specifically, an organization's environment plays an important role in how an organization organizes its processes and responds to its external factors. An organization's knowledge about its environment varies with its connections to that environment. "How an organization learns about its environment, how it attends to the environment, and how it selects and processes information to give meaning to its environment are all important aspects of how the context of an organization affects its actions." (Pfeffer and Salancik 2003, 14.)

Cummings and Worley (2009, 278) state, "The globalization of work and organizations implies that people from different cultures and geographic locations will increasingly interact over complex management and operational tasks using a variety of information and communication technologies." According to the open systems theory, a business does not exist without its environment. The business and the environment interact with each other, which is called an open system organizational structure. Therefore, the functions of a business depend on its environment.

According to Pfeffer and Salancik (2003, 106-108), an organization can adapt and change depending on its environmental requirements. An organization can create an environment that is most suitable for its needs by including elements that serve an organization's purposes best and excluding elements that do not, and thus take full advantage of an environment. This can also be seen as interorganizational power. However, Pfeffer and Salancik (2003, 13) believe that the most important influence on an organization's response to its environment is the organization itself.

The environments of an organization are in direct collaboration with the organization and affect its ability to obtain resources. The environments constantly shape an organization with the inputs they provide to an organization and affect the actions of an organization in one way or another, and hence have an impact, some environments more than others depending on the nature of an organization, on organization and its

system-based outputs', i.e. bill payments, efficiency. An organization as an open system is reliant on its environment, the set of forces surrounding it. Aquinas (2008) states that organizational environment consists of five environments that are economic, politico-legal, socio-cultural, technological and global environment, as seen in Figure 2.

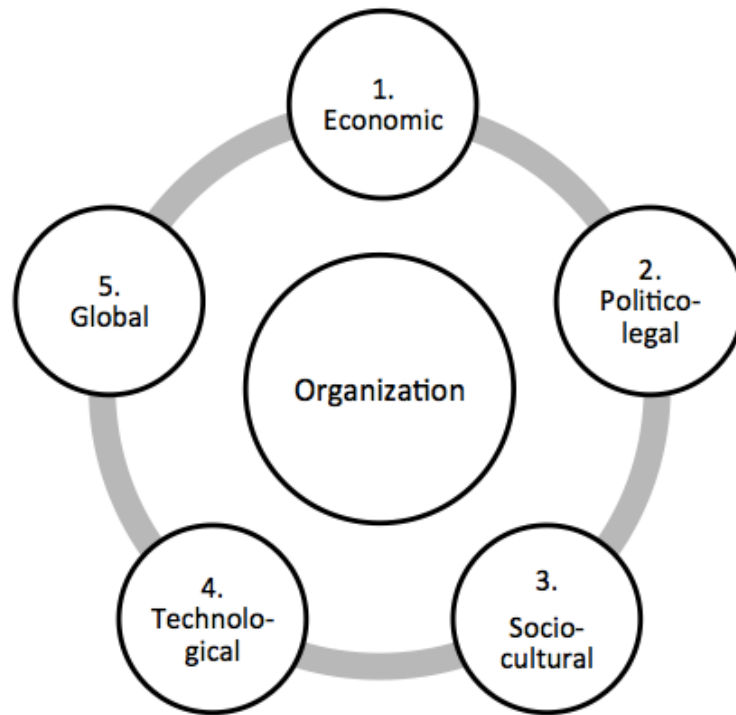


Figure 2. Organizational environment (Aquinas 2008, 46).

1. **Economic environment** consists of forces that have an economic influence on an organization, e.g. recessions, regional unemployment, and other factors that influence the organization's operations.
2. **Politico-legal environment** makes the system stable, open, efficient and dynamic and help the economy to develop. Legislation is also an important instrument. The legal and political systems in which an open system operates can determine the organization's long-term security and successful development.
3. **Socio-cultural environment** includes factors such as people's attitudes toward work, education and values, which determine the ethical operations environment of an organization and an organization's social responsiveness. Quality of education guarantees well-educated employees that can contribute to the success and stability of the organization.

4. **Technological environment** of an organization changes fast. Thus, organizations should stay alert to the newest technologies in order to interact efficiently with the environment. Technological developments emphasize the importance of an educated, change-positive workforce.
5. **Global environment**, which strives an organization to learn from foreign organizations and thus develop itself. Globalisation, including global flow of information, technology and innovations, has become imperative for any business. (Aquinas 2008, 46-47.)

Furthermore, when looking at the environment from an organization-wide perspective, an open-system-based way of thinking means that external forces are the organization's external systems, which can also be called the organization's subsystems.

According to Aquinas (2008), in addition to five organization's environments, there is also another way to arrange an organizational environment. It can be divided into a general and specific environment. The specific environment and forces of the organization are in direct collaboration with the organization and affect its ability to obtain resources. The general environment and forces of the organization shape its specific environment. The specific environment refers to suppliers, distributors, unions and the government with which the organization cooperates. In other words, this part of the environment consists of an entity of actual organizations and persons that is particularly crucial to the goals of the organization (Aquinas 2008, 48-50).

Aquinas (2008, 50) states that "a company establishing operations in a country overseas must be attuned to the host country's business methods and practices." It is challenging for a company to operate especially in an international environment since business partners differ culturally in other countries (Aquinas 2008, 48). Each country has customs and cultural values that determine their work practices. Different customs, assumptions and cultural values, in addition to technological developments, may create great challenges for an organization in a changing environment that is foreign to it at the same time. As an example, if an organization establishes a subsidiary or a branch in another country in a foreign operational field, it has to integrate its operations and processes into a new environment, even though the organization's intraorganizational values and procedures may remain somewhat the same. If a country has an unstable economic situation, it is challenging for an organization to operate efficiently. Furthermore, the security of an organization is dependent on the country's political and

legal environment. High-quality education guarantees an educated work force for organizations.

3 B2B PAYMENTS IN THE UNITED STATES

3.1 Payments in the U.S.

There are various payment types in the United States. Payments can be processed manually via traditional paper checks, electronically through online banking, using other systems in multiple ways, or even without having a bank account via money orders or prepaid debit cards, just to mention a few. In order to process a payment transaction, the use of a payment instrument, whether it was e.g. cash, card, check or a check image, is needed. The selection of the most convenient method varies depending on a number of factors: the payment value, remittance information provided by vendors, recurrence of a payment, invoice due date and limitations created by technological factors and online banking environment, such as debit and credit or payment method blocks that are specified at the opening of a bank account.

Humphrey (Berger et al. 2015, 408) divides payments into three different categories based on their value.

1. Smaller value retail transactions
 - cash, checks, and debit and credit cards (some tied to a mobile phone)
 - used at the point of sale
2. Medium-value consumer and business bill payments
 - checks and electronic automated clearing house (ACH) transfers
 - direct debits for consumer bill payments (with cards used on the Internet) and credit transfers for business employee disbursements
3. Large-value or "wholesale" payments
 - wire transfers
 - large-value transactions among businesses, between business and government, used for financial transactions in the foreign exchange, government security, corporate bond, equity, and derivate markets. (Berger et al. 2015, 408.)

Checks and ACH transfers are the most important payment instruments by volume for bill payments and other methods used in the business payment world in general, a Humphrey also states. This research concentrates on a check payment because it is

different from Finnish payment methods. Automated clearinghouse transfers are comparable to a regular bank-account-to-bank-account money transfer that is also used in Finland when bills are paid or money transferred via Internet banking systems. Hence, the ACH transfer is only mentioned in some contexts. Describing this process is left out of this thesis.

3.2 Payment systems

3.2.1 In general

Payment systems play an important role in the economy. Payments are processed in conditions and situations that constantly evolving systems create as a result of technological innovations and new legislations. Due to the pressure of technological development, the world is shrinking and changing, which also means that businesses have to remain attuned to the times. MOT Oxford Dictionary of English defines "payment" as "the action or process of paying someone or something or of being paid" and "system" as "a set of things working together as parts of a mechanism or an interconnecting network; a complex whole".

In the United States, payment systems, clearing houses, central securities depositories and securities settlement systems are the key bodies in financial market infrastructure (Bank for International Settlements 2012, 477). Funds can be transferred primarily through the Fedwire Funds Service (FedWire), Clearing House Interbank Payments System (CHIPS), the National Settlement Service (NSS), cheque clearing, automated clearing house (ACH) and payment card networks (BIS 2012, 486).

In a reference to BIS (2012) the payment systems can be divided into wholesale and retail fund transfer processors. Since this research mainly handles check payments processed to vendors by businesses, the concentration is at the retail level. Checks among other non-cash payments are processed electronically more frequently as new innovations enter the payment system market and competition increases.

3.2.2 Organizations

Several different firms, most importantly banks, are involved in money transfer processes. Banks play an important role in money transferring processes because they are the ones figuratively holding money. Berger et al. (2015) remind us that non-bank firms are also strongly linked to the payment processes; transportation firms are needed for cash and paper check payments, and telecommunications facilities are needed for electronic payments. They move payment information between businesses' deposit accounts at banks and between individual bank reserve accounts at central banks for final settlement of retail and wholesale transactions. Cash does not require final settlement. (Berger et al. 2015, 408-409.)

Statutes, regulations and case law at the state and federal levels govern the firms controlling the systems. The relevance of legal principles to a particular system depends on the method of payment, the type of transactions cleared and settled, and, in some cases, the status of parties to a payment. Rules and membership agreements of private clearing and settlement arrangements, within the relevant governing law, provide a contractual structure for payments activity. (BIS 2012, 477.)

In the U.S., the banking sector is seen as a competitive industry providing financial services to individuals, small and medium-sized enterprises, and large corporations. The federal and state governments qualify American banks, and for that reason the legal definition of a bank is significant. The actions of banks, and therefore the U.S. payment system, are comprehensively regulated and controlled by various regulators of which the most important is the Federal Reserve. (KPMG 2011, 54.) Because of regulators and the limits their regulations set to business, payment systems are tightly tied with the banking sector.

3.2.3 The Federal Reserve

The U.S. Congress established the central bank of the United States, The Federal Reserve (the Fed), in 1913 by the Federal Reserve Act. The Federal Reserve controls the American monetary and financial system and it is constantly looking for ways to make it safer, more flexible and more stable. (Federal Reserve 2014.) Its responsibilities are to conduct monetary policy, monitor the financial system, act as the

fiscal agent of the U.S. and regulate the payment system and other financial activities (Murphy 2015, 23).

According to the Fed, the U.S. payment system is lagging behind in its evolution, especially in technological changes that support the payment process. Few things, such as development of networks and computing devices and the fact that information is increasingly processed in real time, are changing businesses expectations for payment services. At the same time, as the technology evolves, the risk of rapidly escalating data security threats rapidly increases. (Federal Reserve System 2015.)

3.2.4 Automated Clearing House

The automated clearinghouse (ACH) is a nationwide payment clearing and settlement network, established by the Fed, through which depository institutions send each other batches of credit and debit transfers electronically (Federal Reserve 2014). The Federal Reserve Banks and Electronic Payments Network (EPN), who are the central clearing facilities of ACH transfers, operate the ACH network. In the ACH network, money and information are transferred from one bank account to another via ACH credit and debit transactions. Through ACH network processing B2B transactions, both recurring payments and one-time transfers are fast and secure. Financial institutions accumulate transactions throughout the day for later batch processing via ACH networks. Settlement generally happens in one business day. (Federal Reserve 2014, NACHA 2016 and Reese 2008, 109.)

3.3 Check payment

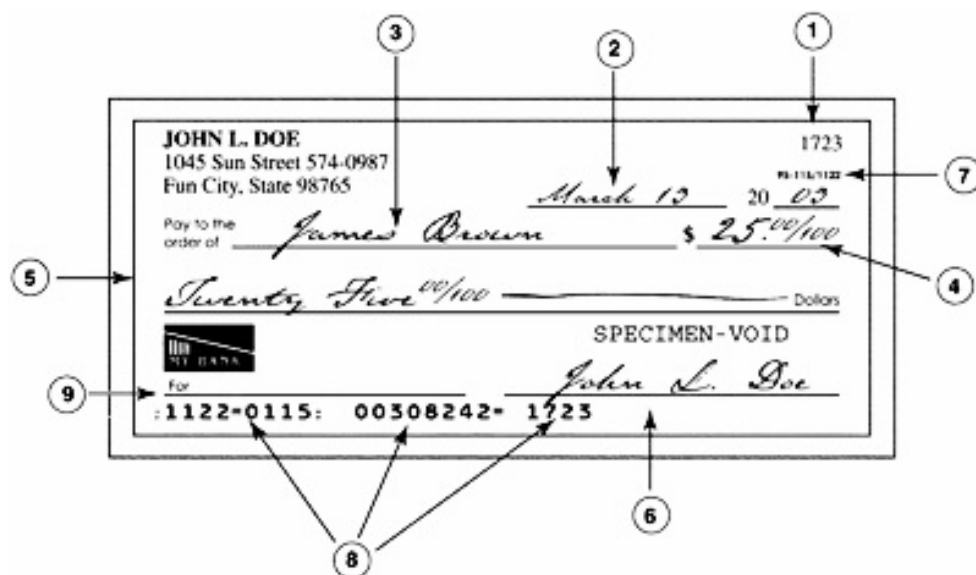
3.3.1 Check

In legal terms, a check is a negotiable instrument, a formal written document, in which a drawer, the person who writes the check, gives an unconditional order for a bank to pay a definite sum of money defined in a check to a beneficiary of the check. The money is drawn from a drawer's banking account and electronically credited to a beneficiary's bank account or given to them as cash. Check related issues are

governed by the Uniform Commercial Code (UCC) Articles 3 and 4 in the U.S. (Investopedia 2016; Jentz and Miller 2008, 415.)

In accordance to Jentz and Miller's "Requirements for a check including the sections of UCC's articles 3 and 4" (2008, 416), a check's form and content has to meet special legal requirements. A check must be:

- in writing
- signed by the maker or drawer
- a definite promise or order
- unconditional
- an order or promise to pay a fixed amount
- payable in money
- payable on demand or at a definite time
- payable to order or to bearer



Picture 1. A valid check (Abdul-Rahman 2012, 1).

A check must have all of the following elements to be valid (Picture 1).

1. **Check number** - Most checks are pre-numbered. If not, a number needs to be written by a payer. Numbers help balance bank accounts or track a lost or a stolen check. A number is needed in case a check must to be cancelled once it is already sent to a payee.

2. **Date** - The date on which a check is written. In some cases a check can be postdated, which means the date is past the actual date when it was written.
3. **Pay to the order of** - The name of the person or company receiving the check. Abbreviations should be avoided.
4. **Amount in numbers** - The U.S. dollar amount in dollars and cents. The clearest way of doing this is to separate dollars from cents with a period. In the U.S., a comma is used to separate thousands. However, there are some other ways of writing cents.
5. **Amount in words** - The U.S. dollar amount in words and cents in figures followed by an extended line to prevent changes. In case the parts 4 and 5 do not match, the bank will generally pay the amount written in words.
6. **Signature** - The signature has to match with the one on the signature card filled out when opening a bank account. Companies usually have multiple signors, and more than one authorization is required in order for a check to be valid. Checks may be written using software and then printed out, but must be signed in writing. A blank check should not be signed because anyone who finds it can fill it out and cash it.

Information:

7. **Bank numbers** - Bank location and identification numbers are used to sort and identify checks so they can be returned to the originating bank.
8. **Routing number** - Bank identification numbers that are used by coding machines and computers for electronic sorting and processing.
9. **Account number** - Payer's bank account number.
10. **Check number** - The check number is placed here, too, for the banks' computer verification or in case a check has to be recalled or voided.

Optional:

11. **Memo** - A space to note what a check is for. This can be, for example, an account with a payee or a short written description of the nature of the payment. (Abdul-Rahman 2012, 1-2.)

3.3.2 Check electronification

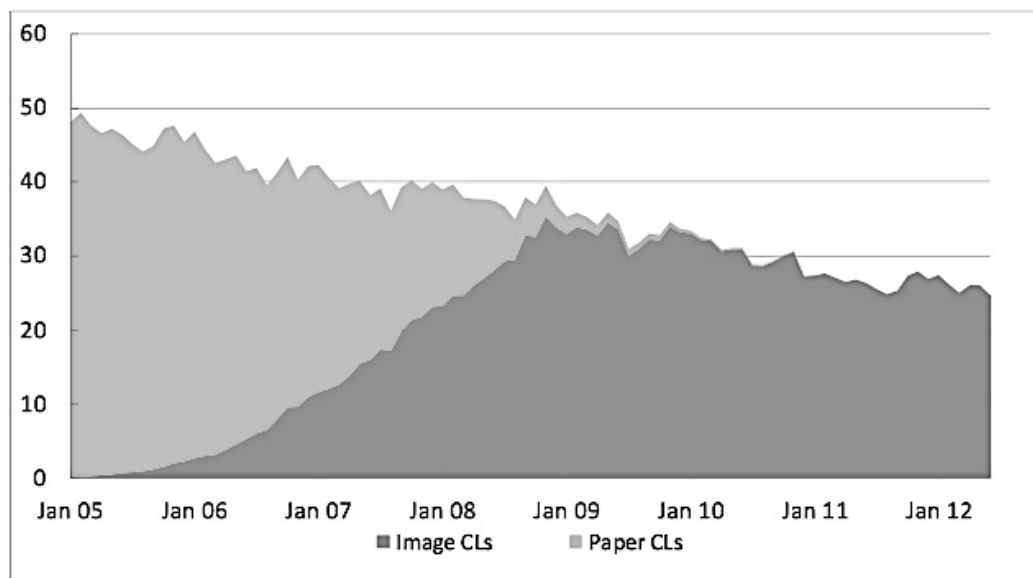
The check payment environment is constantly in transition towards a more electronic infrastructure, which means a decrease in manual steps and an increase in steps requiring information technology. Due to lack of system integration, improved technology is needed to increase wire payment volume and at the same time increase the safety of the transactions.

Benson and Loftesness (2014) tell how a check process electronification, which means changing something from a paper based system to an electronic system, got its start in 2002 when companies were first allowed to capture the information on the magnetic ink character recognition (MICR) line at the bottom of a check, and then process the check images as an ACH transaction. A remarkable breakthrough of electronification occurred when the Check Clearing for the 21st Century (Check 21) became a law in 2004. Check 21 Act allows a beneficiary's bank to truncate the check process. Check truncation means taking a check out from a physical circulation by scanning it and creating an electronic image out of it. The image is then turned into a substitute check (see Picture 2), which is a printout or image from both sides of the truncated check. The substitute check must contain all the same information as the paper check as it replaces the paper version. (Benson and Loftesness 2014, 36.)



Picture 2. Substitute check (Littman 2015).

Since the Check 21 Act came into effect, almost all checks have been processed electronically, as it can be seen in Figure 3. This means that the check payment process has gained much efficiency because the check supply chain has become shorter. The lighter grey area represents paper check clearances and the darker grey area represents image check clearances.



Check-21 volume trends in the Fed, daily average in millions

Figure 3. Check processing transformation in the U.S.: Number of checks being written in the U.S. is falling & electronic clearing is near 100% (Littman 2015).

Before the Check 21 Act, checks were used to ship physically from bank to bank after a vendor at a vendor's bank deposited them. The substitute check, instead, is automatically sent to an ACH operator after a vendor first:

- a) takes it to their bank or automated teller machine (ATM) for a deposit or
- b) converts it to an electronic debit, or ACH transaction, by using a special scanner or mobile banking application.

The monetary value is then debited from the customer's account, which in this paper is an organization's bank account, and credited to a vendor's bank account. (OCC 2016.)

Bill Pay

Bill Pay is an alternative payment method for a paper check. With Bill Pay it is possible to make a payment to anyone who would usually get paid by a regular paper check. Among the banks that operate in the United States, at least Bank of America, HSBC, Wells Fargo and TD Bank offer an online bill payment service for their customers. Payment processes and payment delivery times to beneficiaries may vary depending on a bank although the idea itself is identical. A delivery route of funds transferred through Bill Pay is similar to a check's path to a vendor.

Payments are settled in online banking systems. Bill Pay service payments can be sent to payees in one of two ways: either electronically as an electronic payment or through the United States Postal Service as a laser-printed paper check. Some businesses are not capable of receiving funds electronically yet. Many different factors are considered each time a payment is processed and a bank's payment system automatically selects the most appropriate method on an individual basis.

In most cases, the Bill Pay amount is subtracted from one's account balance on the day the bill is selected to be paid. In either fund delivery option, the funds will be debited from the payer's bank account on the payment date. However, at Bank of America the funds are subtracted when the recipient deposits the check. The payer should allow from three to five business days for delivery, which is considerably quite a long time. On the other hand, Bill Pay fund transfer is free. (Bank of America 2016; HSBC 2016; TD Bank 2016; Wells Fargo 2016.)

4 EFFICIENCY OF B2B BILL PAYMENTS BY ORGANIZATION X'S EXAMPLES

4.1 Organization X in a foreign environment

The open systems theory refers to an organization as an open system and its ability to identify, adapt and use knowledge from external systems. It creates a framework for an organization as a means to explain how an organization, as a complete unit, interacts with its external environment.

As of today, the finance office of Finnish government organization X operating in the United States of America has stabilized its invoice handling and payment processes by, for example, creating functional internal control processes and tools that support its accounts payable (AP) process. However, when the finance office was established in the 1990's, too much time was spent tracking down incorrect, unclear purchase invoices and missing or misapplied business-to-business (B2B) payments as a result of American companies poor and unorganized accounting practices. Complex and bureaucratic American payment systems, including unfamiliar payment methods and online banking systems, at first confused Finnish accountants, who were used to Finnish procedures, especially those working at the finance office, and complicated their work practices. The factors mentioned above strongly affected on organization X's Finnish accounting operations when integrating with the American operational environment.

My work experience at organization X

The primary source of motivation for this research is my work experience as an accountant in the finance office of X in the U.S. In reference to Mitroff and Pondy (1979 4-5), my experience brings the research an organizational behavioral, individualistic perspective whereas some issues, i.e. boundaries created by Finnish laws, are experienced from an organization-wide aspect because they are organization X's environment and have an influence on X as a unit.

I was responsible for the AP process, which included handling invoices, managing a double-entry bookkeeping system, and processing payment transactions on a daily basis. Because of strict regulations, every invoice has to go through the AP process before it can be paid. Therefore, the AP process creates a base for check payments. At the end of each month, I reconciled the main bank account from which all purchase invoice payments were made. In addition, cashed checks had to be balanced against bookkeeping once a week or so. This was a crucial process regarding check payment follow-up procedures. Therefore, I have gained much practical knowledge and experience in the payment culture of the U.S. and the challenges it creates for a foreign organization. Also my Finnish colleagues in the U.S. found the bill payment methods, especially the usage of paper checks and multiple online banking payment options, complex and different from the Finnish bill payment methods.

4.2 The open systems model at organization X

Aquinas (2008, 50) states that "a company establishing operations in a country overseas must be attuned to the host country's business methods and practices." It is challenging for a company to operate especially in an international environment since business partners differ culturally in other countries (Aquinas 2008, 48). Organization X is in daily collaboration with many organizational environments, both Finnish and American, and has integrated its Finnish procedures into American payment culture to the limits the Finnish regulations allow. X's environment consists of two politically, socio-culturally, technologically and globally different environments, a Finnish and an American environment. These environments can also be divided into specific and general environments as earlier stated in chapter 2.3 Organization's environment.

Organization X's bill payment environment is quite vast and involves many operators because many different bill payment methods, a check, an ACH transfer and a Bill Pay service, are used and they all function in somewhat different environments and follow different procedures. As an open system organization, X's finance office depends on other systems, i.e. vendors, and the inputs, i.e. products and services, they provide for organization X in the U.S. These systems therefore are organization X's subsystems that belong to organization's specific environment.

Organization X as an open system is reliant on four different environments stated by Aquinas (2008, 46) and the set of forces, that are X's subsystems, surrounding them.

1. **Politico-legal environment** makes the system stable, open, efficient and dynamic and help the economy to develop. Legislation is also an important instrument. The legal and political systems in which an open system operates can determine the organization's long-term security and successful development. (Aquinas 2008, 46.)
 - **Finland**
Laws, inter-organizational rules and regulations control the efficiency of X's bill payment processes. The invoices have to be approved by two authorized persons within X before they can be paid. The invoices must have supporting documents if they are unclear and are, for example, based on performance or exhibition agreements.
 - **The U.S.**
American legislation controls the payment systems and how they work and thus, the legislations limit the selection of payment instruments that organization X can use and how the payments are finally received by X's vendors.

2. **Socio-cultural environment** includes factors such as people's attitudes toward work, education and values, which determine the ethical operations environment of an organization and an organization's social responsiveness. Quality of education guarantees well-educated employees that can contribute to the success and stability of the organization. (Aquinas 2008, 46.)
 - **Finland**
Finns, who work at organization X and also Finns in general, are well-educated, diligent and honest workers who carry out their work with great but modest pride. The accountants of X have created internal control tools to support the bill payment processes; cultural values, norms and beliefs of the accountants drive their instincts to protect their backs and control and prepare for risks that organization X may face in the U.S. such as frauds, which are common in the U.S. B2B bill payment world.
 - **The U.S.**
Americans are socio-culturally differently educated from Finns, which is reflected in Americans' attitudes toward work. The gap between two extremities of educated American social classes is big and it can

strongly be observed in their work ethics. Many highly educated Americans, i.e. policy makers and organization managers, manifest the hierarchical structure between social classes and are very passionate about their jobs whereas less-educated workforce, who work in supportive roles and who the X's accountants have to be in contact with, such as banks and vendors' customer servants, are clearly influenced by the lack of electronic payment system development and well-functioning bookkeeping systems within American organizations which in turn makes their job more challenging, which again, in turn, strongly influences their work motivation. The complexity of the system is very challenging from their point of view as well as from company X's as well as any Finnish company's point of view. Therefore, sometimes it is challenging for organization X to get information from them regarding the bill payments. Consequently, frequent misunderstandings and delays in getting information affect the cooperation between organizations.

3. **Technological environment** of an organization changes fast. Thus, organizations should stay alert to the newest technologies in order to interact efficiently with the environment. Technological developments emphasize the importance of an educated, change-positive workforce. (Aquinas 2008, 46.)

- **Finland**

Organization X's socio-cultural environment supports its technological environment in sense that its highly educated workforce has been an advantage when X has been adapting into a new foreign technological environment. The accountants acceptance of new technology is efficient and therefore they have learned how to use the American systems i.e. checks and banking system fast.

- **The U.S.**

As Hayashi (2015, 2) states the American payment network is massive and an execution of faster payments in the U.S. would require coordination of a great amount of payment operators, businesses and legislators. The wideness and complexity of the U.S. technological environment might be one of the reasons why American organizations do not interact too efficiently with technology which

makes the payment processes of X challenging and sometimes difficult.

4. **Global environment**, which strives an organization to learn from foreign organizations and thus develop itself. Globalization, including global flow of information, technology and innovations, has become imperative for any business. (Aquinas 2008, 47.)

- **Finland**

Finns are open to global flow of information, technology and innovations and because of that organization X has learned from the U.S. environment and developed its bill payment processes by creating internal control tools and finding ways how to cut the amount of check payments. Through the years the accountants have learned how American organizations and payment systems operate on an open loop model.

- **The U.S.**

The Fed and other American operators have not adopted as much from global environment, like from other globally developed countries' such as Japan and Finland's electronic payment systems, as they could have. As a hypothesis, if no checks were used in the U.S. and new payment innovations were created by Americans, organization X could learn from American systems and implement these innovations further in Finland within Finnish systems.

As a conclusion of organization X's four environments, each of the environments is connected to one other in a way or another.

When it comes to organization X's B2B payments, business is in constant interaction with various B2B payment instruments and methods and their controllers, e.g. bank and clearing house. They all have a common goal: to transfer the payments in a safe, convenient and fast way from one account to the other. The environmental forces, in this case mostly technological, different payment methods created and regulated by different instances, i.e. intermediaries, in this case financial institutions in X's politico-legal environment, influence the X's operations sometimes causing extra work for its

employees, sometimes slowing down its operations, sometimes making everything running smoothly.

Organization X's operations are controlled and regulated by Finnish laws, intraorganizational rules, and regulations, which are forces from X's general environment, that it has to follow precisely. Then again, American payment systems are controlled by American legislation. This means that, in practice, organization X is under the guidance of two different politico-legal environments that control X's operations and in that way form borders between organization X and its environment. Regardless, legal restrictions in a different payment culture and processes that X has to adapt in the U.S., a good selection of vendors, and multiple payment methods create flexibility for X and let the finance office to take a full advantage of its organizational environment by including the most suitable elements that serve X's purposes best and exclude elements that do not, that makes organization X an efficient open system.

- Includable elements are e.g.:
 - ACH transfers and Bill Pay payments
 - Online banking system
 - Electronic check writing software
 - Most reliable vendors
- Excludable elements are e.g.:
 - Check payments
 - Check carriers

However, some of the elements belong to both includable and excludable categories depending on the situation and exceptions may apply. If the same or next day payment delivery has to be assured, sometimes a traditional check payment may be the fastest way to process a payment and deliver the money to a vendor. For example, rent payments have tight and unconditional due dates. If a payment is late, marginally high late fees are applied and they are reflected on the following month's account statement. Hence, rent payments are the type of costs where paper checks and check carriers, i.e. a post office, are still used for by organization X and also by many other American companies.

Finnish people who work at X are highly educated and thus are used to exploiting high-end technology, such as electronic invoicing system and well-functioning electronic payment systems, among Internet banking. Finland is known for its technological

expertise, and also Finnish companies have incorporated advanced technologies. Hence, collaboration between Finnish organizations works out well because they share the same expectations of their organizational environments. Finnish organizations identify with each other because of their common ethical operations environment, common cultural norms, values and beliefs. Finnish people, in general, are honest and diligent and follow the rules unconditionally.

In the United States, payment technology is lagging behind, which is a challenge for organization X's finance office since Finnish people working there are used to receiving and paying bills electronically via Finnish systems. It is extremely rare in the 21st century to process a bill payment in any other way than online banking system in Finland. In the United States, education, colleges and universities are quite expensive, which may cause a domino effect of an uneducated workforce, which may lead to Americans' willingness to implement new technologies as a result of insecurity driven by a lack of education and knowledge itself. As a technologically and socio-culturally strong open system organization, X has quickly been able to adapt to American payment culture since its workforce is educated and also because in Finland payment technologies are more advanced versus the U.S. payment technologies.

4.3 Efficiency of B2B bill payments

4.3.1 Invoices and the importance of reliable business relations in the U.S.

Purchase invoices create a base for B2B payments because X can make no payment without a trustworthy document that clearly states who owes a certain amount of money to whom and why. Extensive research for this paper through literature, articles, and laws both online and in books uncovered no source material dealing with invoice regulations. However, an article called "What are the legal requirements for issuing an invoice in the U.S.A?" written by Gilley (2012) on a question-answer-based website Quora was found, and after doing more research I consider it to be a reliable resource. The article supports my findings by answering the question about the legal requirements of an invoice issuance, and states that there are no legal requirements for an invoice in the United States.

Gilley writes that in the Uniform Commercial Code, which also Burge (2015) discusses, there is no provision regulating the format or process for issuing an invoice. State-to-state invoice requirements may vary and even then they are not based on codes but more likely on contracts that exist between parties. (Gilley 2012.) This is why the importance of choosing reliable suppliers, establishing long-lasting customer relations, and knowing the payment terms on a contractual basis is emphasized.

Nevertheless, a transaction should be a result of issuance of an invoice and following the terms stated on an invoice. The charges incurred, the payment terms and other possible information such as remittance information should be distinctly specified on an invoice, and all the information should be match with the contract terms. (Gilley 2012.)

In the example of X, non-standardized unregulated invoices were a major challenge. Roughly about 15 percent of American invoices were somewhat unclear and required extra investigation. Some invoices were easier to process than others, which may be written by hand on a piece of paper and do not include remittance information. In this case, it is challenging to estimate the reliability of an invoice and also the reliability of a supplier. In Finland invoices are strictly defined by the Tax Law, which makes it easier for both an invoice issuing organization and an invoice receiving organization to handle payments. Every Finnish invoice, issued by a taxable person regarding domestic supply of goods and services, has to include a business identity code (the VAT number), payment reference numbers and other relevant payment information.

Efficiency of invoices and contracts

When X makes new agreements with suppliers, the convenience of the payment method is good to take into consideration and agree beforehand with vendors, especially with sporadic ones, in what ways and how fast they will get reimbursed. The remaining challenge is the information gap between the finance office and other departments within organization X making agreements and planning to make purchases. For that reason, organization X is not able to provide vendors, specifically with the ones whose services is more project based, with clear invoicing guidelines. In that sense, when it comes to invoicing, internal efficiency shall also be improved. In order to gain this intraorganizational efficiency, organization X should arrange a training session for its employees to tell how its bills are paid.

As an example, there were situations when some vendors needed, others even insisted, to have their payment at the point of delivery of a service or a product but refused to send an invoice beforehand. This meant that sometimes the payments had to be made basing on information in purchase orders or agreements, in some cases even just on emails between vendors and organization X. This is one of the reasons I emphasize the importance of contracts.

4.3.2 Accounts payable process at organization X

Figure 5 shows the accounts payable process flow at organization X. The AP process describes the flow of an invoice from the point of the arrival of an invoice to the point of the payment of an invoice in X. The grey circles in chart represent the actors in organization X. The process starts when a vendor sends a purchase invoice to X and an accountant of X receives it. The invoice can be received via mail, which is the most common and traditional way, e-mail, or it can be downloaded from a vendor's website after a vendor notifies X about a new invoice in a vendor's system by an e-mail reminder.

When a paper invoice is physically on a desk of an accountant, it has to be dated and inspected for possible errors and invoice relevance. When and if an invoice fills the requirements of an appropriate invoice, which means that it is compatible with the agreement terms and charges are in line with received goods and services, an accountant scans it and other required supporting documents, i.e. contracts or e-mail, and routes the documents to person A for first approval in an electronic invoice handling program. Person A, who is usually someone who has made a contract and has the best knowledge regarding a vendor and received inputs, approves an invoice and routes it to person B for the final approval. This is the final mandatory step before an invoice can be paid. After approvals an accountant collects all approved invoices from the electronic payment software and stacks them based on the payment method, which are an ACH transfer, a check or a Bill Pay.

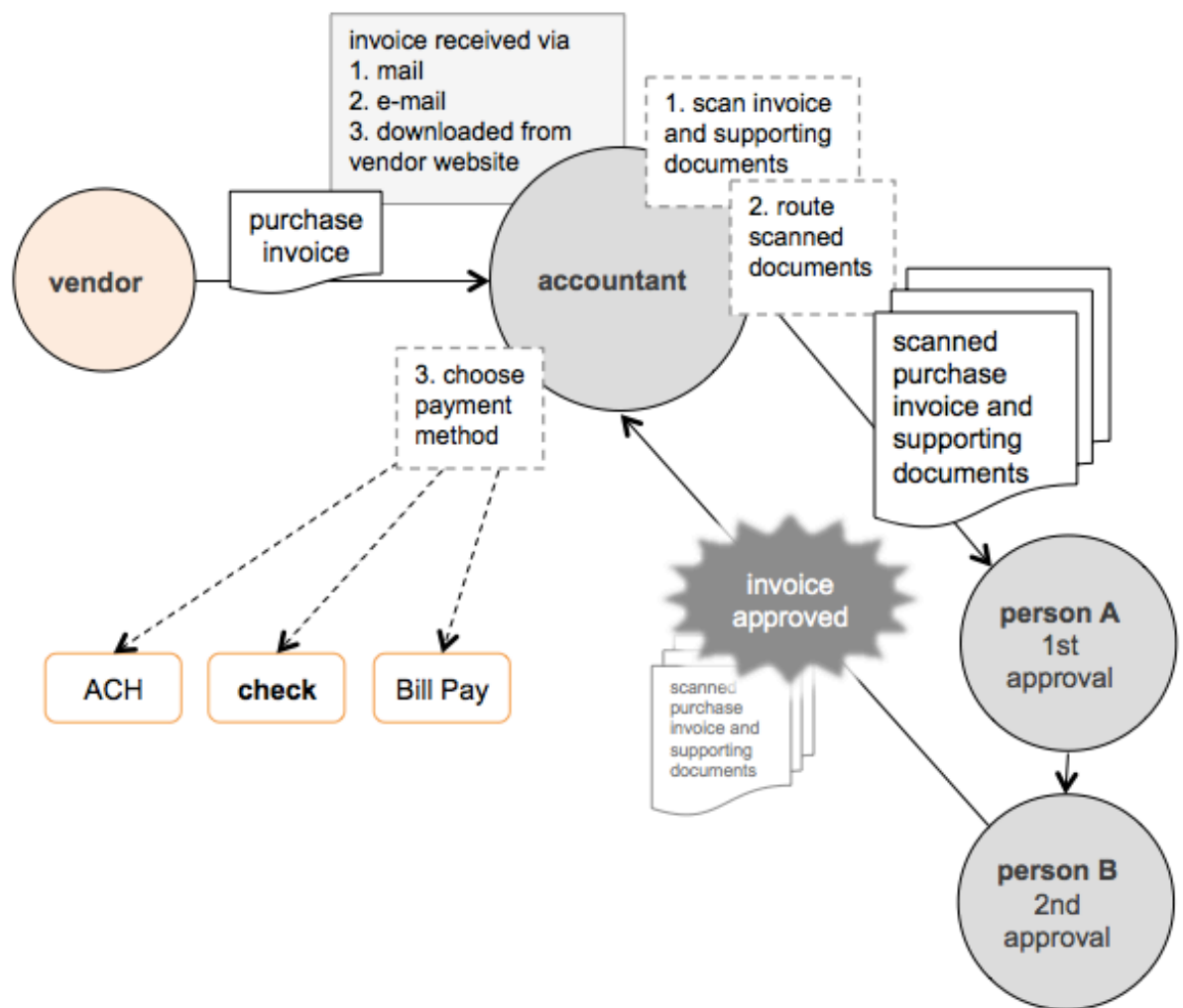


Figure 4. Accounts payable process flow at organization X.

Efficiency of accounts payable process

A core actor in the chain is the employee of X, in this case an accountant, who basically controls the entire process. The employee has to adapt to the environment, carefully study the different payment methods and carry out the payment procedure. If the environment causes challenges in their work, they have to act accordingly either by finding out more about the subject themselves or by consulting an expert. Cummings and Worley (2009, 141) believe that "feedback is primarily a stimulus for action and thus should spur further diagnosis and problem solving." When consulting an expert or some other person, X's accountant gets feedback from the environment, in this case advice, and thus communicates with the environment. Together X and the environment

achieve a common goal. Together, they also improve the efficiency of the procedure and help the company function better.

Fumiko Hayashi (2015, 2) claims that "Implementing faster payments in the United States requires coordinating more than 13,000 financial institutions, millions of businesses, and many payment networks and service providers. A further complication is that U.S. public agencies, including the Federal Reserve, lack the authority to mandate faster payments" Moving B2B payments from paper checks to electronic payments is slow in the U.S. mostly because the American operational environment is so vast and involves so many systems and operators.

Organization X's external environment directly effects on the effectiveness of an organization. External recourses that are available for the use of the company can either facilitate or slow down the procedures in the organization. Since an organization cannot change the external resources, it has to adapt to the situation as well as possible in terms of environmental factors.

However, in order to ensure efficiency, it is good that X has back up plans, options and a reliable external network, for example a reliable contact person at a bank and suppliers, that secure and support the payment processes and are trustworthy, and cooperative subsystems if something goes wrong within a payment process. The American payment environment is fragile and vulnerable because it relies on so many external factors.

4.3.3 Check payment

Checks and check processing get a lot of attention in this research because they are not used in Finland any longer. Therefore, Finnish people are unfamiliar with the meaning of a check and its supply chain from payer to payee, which is why checks are emphasized in this paper. An open system approach for an organization and the supply chain approach for a payment process are vital when it comes to paper checks and check processing. The way a check, and most importantly the payment amount, is actually delivered to a vendor is a long process and involves the coordination of many systems, such as the post office and people at a vendor's office, and their subsystems, such as a vendor's bookkeeping system.

At organization X, checks are written on a computer using electronic check writing software. Through the software, all the required check payment information that is shown earlier in Picture 1, excluding signatures, is typed in and then checks are printed out on check papers. Check papers are pre-printed, which means that they already are numbered and have the bank account holder's information, in this case organization X, including the bank's name, account holder's name and address, and ABA routing number and account number. Checks are usually ordered in 500 check batches from an office supply store who cooperates with a bank, which again is another subsystem in organization X's environment. Once the checks are printed out the information in them is carefully double-checked and after that the checks are ready to be taken to authorized signors. Two signatures are required in order for the checks to be valid.

Organization X controls errors caused by the environment, the systems and their subsystems by creating internal control tools. Because of errors created by an open system's environment, internal controlling is a vital part of a check payment process. Before the checks are mailed to vendors, they are scanned and saved as pdf files in a secure file on a computer hard drive. A back-up file is also created. Secondly, a check payment Excel spreadsheet is updated. It has a separate column for the date when a check is being sent out to a payee, payee name and remittance info, check number and the payment amount.

Invoices, that are non-recurring and have troubles reaching a vendor via ACH transfer or Bill Pay, are paid by checks. The goal is to minimize the usage of traditional check payments because they are very laborious and the most expensive and the most time-consuming payment instrument used in organization X and in the United States when many factors are taken into consideration, e.g. long payment supply chains and involvement of many systems in the process.

Check payment supply chain

Benson and Loftesness (2014, 12) comment that nowadays the payment system, e.g. ACH and check images, operate on an open loop system, a hub-and-spoke model, as seen in Figure 5. In my case, one party is X and the other end parties are the companies, the vendors, that collaborated with X. Payment systems, i.e. intermediaries help create business relationships between those two so they do not operate directly with each other's banks.

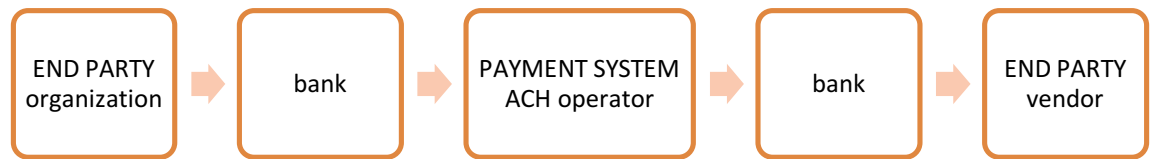


Figure 5. An open loop payments system (Benson and Loftesness 2014, 13).

Referring to Querrec's (2011b, 22) supply chain figure, in a check payment supply chain the flow is a mix of physical and digital downstream flows between Actor B, in this case organization X, and Actor A, in this case a vendor. A paper check is in a physical financial transaction flow until a vendor receives it, which deposits a check (see Figure 6) at a bank or ATM, or by using a check scanner that converts a paper check into a substitute check. At that point, the flow transfers from a physical flow into a digital flow, which in this case is the electronic flow of money and information between a vendor's and X's bank accounts bank through an ACH operator. Therefore, they operate on an open loop system.

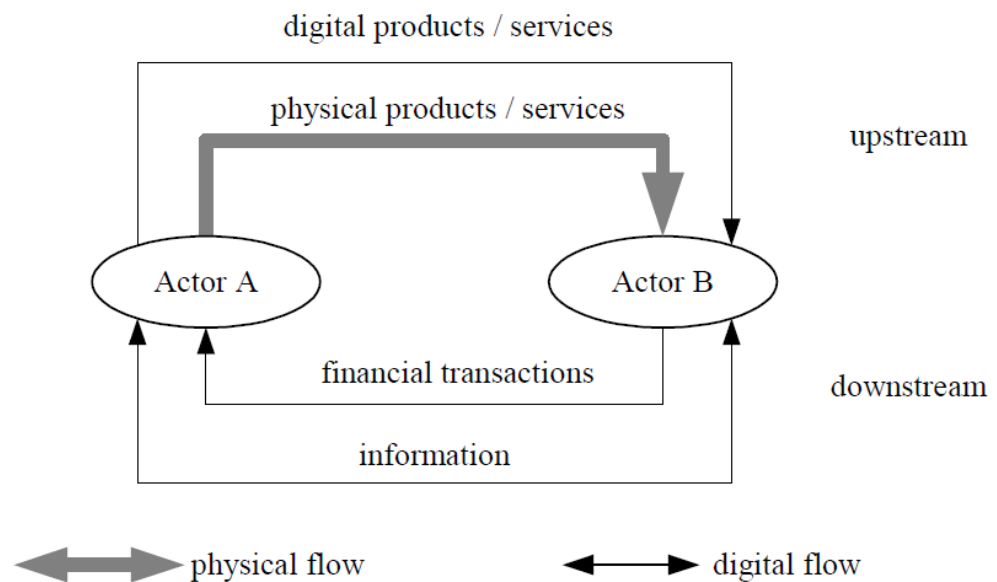


Figure 6. Flows in the Supply Chain – an information system perspective (Querrec 2011b, 22).

Querrec (2011b, 2) indicates that traditionally businesses, employees, public administration and consumers are the actors in a global business supply chain. When a

supply chain model is applied to a check payment process to describe the financial transaction flow between organization X and its vendors, the actors are X, a carrier, a vendor, banks and an ACH operator, as seen in Figure 6.

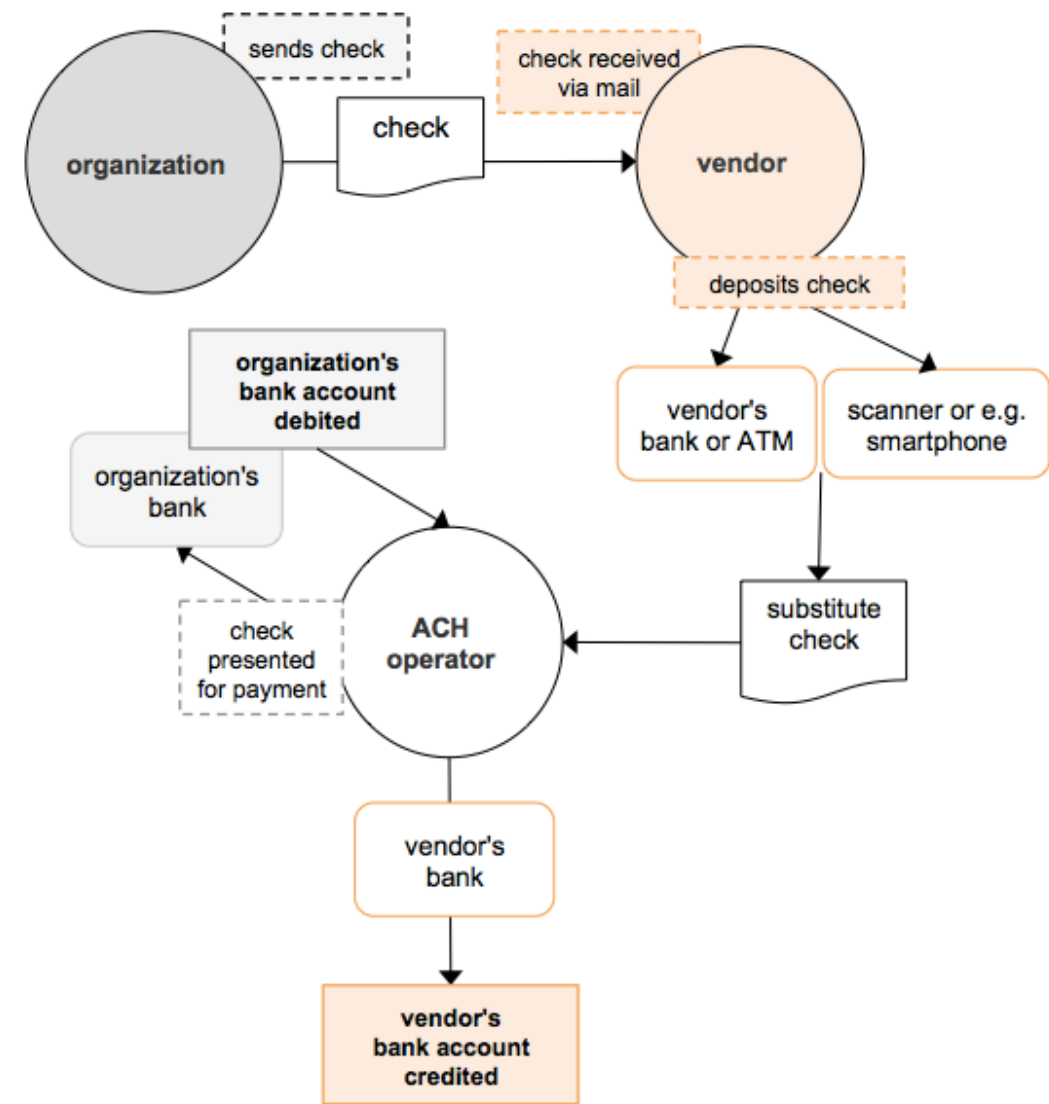


Figure 7. Check payment supply chain between organization and vendor.

Organization X is the first actor in the check payment supply chain. It sends a check to a vendor either by regular domestic mail via United States Postal Service (USPS) or, sometimes when a payment delivery needs to be tracked and a certain delivery time guaranteed, X uses a courier service, United Parcel Service (UPS). The carrier, which is the second actor in the payment supply chain, then delivers a check to a vendor (the

third actor) who deposits it at a bank or ATM (the fourth actor) or uses a check scanner when a check image is created. An image based substitute check replaces the original paper check and the payment amount and information then electronically flows to ACH operator, the fifth actor, who presents a check for payment at organization X's bank, the sixth actor. Organization X's bank account is then debited and the payment information is sent to a vendor's bank, the seventh actor, through ACH operator and finally a vendor's bank account is credited.

Efficiency of check payments

In organization X, the use of checks, significantly slowed down the payment efficiency. Check payments, including preparation, processing and tracking them to the point when the X's bank account is debited, were one of the most time-consuming tasks within the finance office of X even though the usage of paper checks was minimized and only about 20 percent of the bills were paid by checks. When a process involves many actors, i.e. individuals and systems in both intraorganizational and organization-wide level, it is not efficient, but at the same time it leaves space for flexibility of payments that have to be processed in a brief timeframe. Even the number of check payments have decreased to a stage, where only invoices that lack remittance or bank account information and hence need to be paid by checks, are the only bills paid by checks at the finance office.

Check processing is a multiphase process that involves many supply chain actors both inside an organization and outside in its environment. This makes the check payment supply chain long and therefore the risk of errors is high. The check payment process and follow-up requires careful process controlling skills from the accountant of X, who has to coordinate multiple persons, i.e. authorized check signors and check conveyors taking the checks to a mailman who picks them up at the office or drive them physically to a post office.

The external environment strongly influences on the efficiency of organization X, especially when it comes to a check payment process in which the physical movement of various actors, such as a mailmen and vendor employees, between systems, such as organization X, a post office and a vendor's office, is required. UPS courier services are more expensive than USPS regular mailing services but on the other hand, UPS

services are more reliable and reduce insecurity of payment deliveries among X and vendors.

The check payment process continues from organization X's side after the X's bank account is debited. An accountant monitors the bank account a couple of times a week, goes through cashed checks and balances them against X's bookkeeping. After that the Excel spreadsheet is updated again. In spite of the fact that the check payment process is a multiphase and time-consuming process, sometimes it still is the most reliable way to send the money to a vendor.

Efficiency of other than check B2B bill payments

Organization X also actively uses Bill Pay services and ACH credit transfers to pay bills. Most of organization X's bills are paid through the bank's online Bill Pay service. Any invoice that provides the same information that is needed in order to write a traditional paper check can be processed as a Bill Pay payment.

ACH credit payments are processed in batches on a payment template basis. That way the process gains efficiency time-wise because a two-step authorization is required for each batch or each one-by-one payment. In order to process an ACH credit transfer, the beneficiary's bank account information, account holder's name, ABA routing number and account number, is required.

At organization X, business-to-person (B2P) payments are processed as ACH credit transfers by using payment templates where bank account information of the recurring payees is saved. The group of ACH beneficiaries mainly consists of the staff members and some landlords, but only a handful of vendors. Payment types are reimbursements, salaries or rents, the kind of payments that are recurring. Therefore, the main payment template has payment information of payees whom payments are repeatedly, processed to on a monthly basis. At the time the funds are processed, only the recipient's name and payment amount are needed.

The list of payees on the main template can be updated when needed. It is usually necessary at times of replacements and contract conclusions or renewals. If a payment activity is known to be repeated for at least a year or so, the payment information can be added to the main payment template. However, also non-recurring incidentals shall be paid via ACH credit. In this case, when payment information invoice is not recurring

and it is about a non-recurring onetime payment, payment information is not added to the main template but the payment is processed as a one-time ACH credit transfer as its own.

In order to secure its background, organization X takes print screen shots of ACH and Bill Pay payments and saves them on a hard drive, as a Bill Pay and ACH credit payment back-up. Furthermore, the Bill Pay and ACH payment Excel list is updated.

The number of ACH credit transfers processed for businesses has been increasing little by little. This is the result of businesses becoming more familiar with new systems and adapting new technologies into their accounts receivable processes. Hence, they are gaining trust and becoming familiar with electronic payment processing and accounting software, and the world of online banking and all of the services it has to offer. In addition to that, technological adaption of small businesses has influenced improvements in their invoicing processes and what information is provided in invoices. More often, as the risk of security threats is reduced, vendors include their bank account information in the invoices, which makes it possible to process the payment transfers through ACH credit.

4.4 Suggestions for improvements

4.4.1 Invoicing requirements

Because the United States does not have legislation, strict rules or requirements regarding invoicing or invoices, every company should have their own rules for vendors to follow. Organization X is a mediator in between the Finnish and American organizational environments and thus, it has to generate its own rules that serve both of the environments' efficiency. For example, Ericsson has come up with their own invoicing requirements (see Appendix 1), which are available for their suppliers on their websites. Organization X's finance office could benefit from this example and define their invoicing requirements, which would undoubtedly reduce and prevent the amount of errors, clarify payment processes and boost efficiency at the finance office, with individuals in organization X and vendors, who can be considered as organization X's subsystems who belong into its specific environment.

Organization X does not have a certain procedure regarding purchase invoicing with vendors whose services are used less frequently, sometimes only on one occasion. The lack of a procedure shall, in this case, mean elasticity, which may create a wrong picture for some individuals in an intraorganizational level and lead into an unwritten rule that is passively followed in case of an exception.

4.4.2 E-mail address for invoices

Many American companies offer to send their invoices electronically via email to X. However, because organization X has to have all the invoices as printouts because of their scanning process into an electronic invoice handling software, it has not efficiently integrated this process into its operations just yet.

Regarding the efficiency, organization X could create an email account for purchase invoices only. The accountant of the finance office would be the one controlling the email inbox. In that sense, the risk of invoices getting lost in mail or invoices not reaching the right person, in this case an accountant, within an organization would be eliminated. If the invoices were received electronically via email, it would be easy to prove to a vendor, in case of unintentional late payments or such, when an invoice was actually received.

5 CONCLUSIONS AND FURTHER RESEARCH

5.1 Summary and conclusions

This research was implemented in order to understand and describe new perspectives regarding organization X's practices. The purpose of this research was necessarily not to recommend enhancements or improvements to organization X's activities, but rather help the accountants working at the finance office to discover and benefit from a new way of thinking, which requires dismantling formed habits of thinking and existing operating models. Whether the suggestions and efficiency studies and statements will be learned and integrated into X's current operations is up to them.

In this research I combined my educational background and knowledge with the practical experience I have learned when I worked at organization X. Global supply chain management course studies, taught by a lecturer Emmanuel Querrec, and Organizational behaviour course studies, taught by a lecturer Nicolas LeGrand, helped me to create a theoretical base for my thesis and deepen the theories by applying them into practice.

The most challenging part in this research was to narrow down the topic and to find the most relevant literature, data and other source materials because nothing has been written before about Finnish companies and their relation to American payment systems. Thus, it was challenging to keep the research academic because I have been working for the past few years and my practical skills are dominating over my theoretical skills.

This thesis had two objectives.

1. Point out the factors making the payment processes challenging in the U.S. from the Finnish point of view.
2. Find ways how organization X can efficiently develop its payment processes when its operational environment is changing.

The objectives were studied through a research question (RQ) that has two subquestions (RSQ).

- RQ: How has the finance office of Finnish organization X in the U.S. succeeded in integrating American modus operandis, especially a check payment, into its operational environment in the United States?
- RSQ 1: How can an organization gain efficiency in a foreign environment?
- RSQ 2: How to shorten a payment supply chain?

A Finnish organization in the American payment environment has tolerable resources to create functional B2B payment processes. Even new procedures and external factors might have first confused and felt somewhat challenging for an organization in a foreign environment, at least in this case, Finnish new-technology-absorptive and a global-minded workforce has been a great advance for organization X in the integration of processes of new environmental factors and external systems.

Efficient integration of environmental forces is the result of applying the most convenient American B2B methods and systems into the processes of the finance office of organization X, in boundaries of resources and restrictions of environment. Even organization X's finance office has already gained much efficiency regarding its bill payments processes, and can still improve its efficiency by, for example, adapting the suggestions for improvements, creating invoicing requirements and e-mail address for invoices, into its operations.

5.2 Further research

Regarding the payment systems and organization X in the U.S., further research could be done by studying how X's payment processes will gain efficiency after the finance office has implemented the suggestions for improvements of this research in their accounting practices. Another interesting approach to further research would be to discover how organization X's payment processes were like before and right after the Check 21 became a law in the U.S. in 2004. What has changed since then? How did the use of cash complicate the payment processes and accounting practices of X? Additionally, a research regarding organizational efficiency of B2B bill payments in the U.S. in general is one option when it comes to further research.

There is currently a lack of academic research on the theory and practices of U.S. payment methods and systems in relation to Finnish companies, while much has been written about Finnish companies in the U.S. generally. Thus, this and further research may provide valuable information for Finnish companies. Further research regarding this matter could be executed by reaching out to Finnish companies that operate in the U.S. and do research on their experiences. That would make a good research to be compared with this study.

Based on online sources, Finnish companies are interested in establishing subsidiaries, branches and moving their operations to the U.S. As Stefan Lindström mentions (Herrala 2016), the Finnish Ministry for Foreign Affairs has recently met with over 400 Finnish small and medium-sized enterprises (SMEs) willing to enter the U.S. markets. The U.S. seems like a lucrative opportunity for Finnish companies. Finnish technology companies in particular have a lot of potential to go international. An article published by Finpro (Finpro 2016) combines two essential topics regarding this research: Finnish mobile payment specialized SMEs' potential in the U.S. The opportunities in mobile payment and health care sectors are booming.

Finnish companies' internationalization opportunities are made easier by a number of channels boosting their growing opportunities in global markets. The Team Finland network supports Finnish companies to succeed globally (Team Finland 2016a). The network consists of Finnish agents, ministries and publicly funded organizations, such as Finpro and Tekes, and their branches abroad, which support Finnish SMEs internationalization processes in multiple different ways. Their mission is to offer Finnish companies with information, tools and different channels for internationalization. (Herrala 2016 and Team Finland 2016b.) Member-funded hubs, the Finnish American Chambers of Commerce in several locations in the U.S. and AmCham Finland in New York, and also law firm Borenus's New York office, offer their help for Finnish companies.

However, based on my research, none of these organizations are focused on the payment system related issues that were studied in this research. Regardless of that, banking and payment culture-related challenges in the U.S. are already recognized by Finns. In Herrala (2016) and in Niskakangas (2013), it is stated that even opening a bank account overseas gives headaches to Finnish companies. Laitinen and Frisk (Herrala 2016) highlight the importance of seeing every little organizational detail from

the American perspective and hence Americanizing every little detail inside the organization – Finnish laws do not apply in the U.S.

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Appendix

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Ericsson - United States invoicing requirements



UNITED STATES INVOICING REQUIREMENTS

Ericsson only makes payments against valid original invoices. Not complying with the requirements below could result in a delay of payment or rejection of invoice.

INVOICE REQUIREMENTS

To ensure quality postings and on-time payment, invoices and credit notes received must have the following information:

SUPPLIER INFORMATION:

- Supplier Name
- Supplier Address
- Supplier's VAT registration number
- Supplier's telephone number, contact person and email address
- Bank information (must have SWIFT for USD and IBAN for EUR, Bank name, address and account number)

ERICSSON INFORMATION

- Ericsson legal entity and Invoice address as stated in the purchase order
- Ericsson purchase order number (one purchase order per invoice)

CONTENT INFORMATION

- The word INVOICE or CREDIT
- Invoice number
- Invoice date

- Currency (monetary code e.g. USD, EUR). This shall be the same currency as stated in the Purchase Order
- Specification of goods and services delivered; Line items in the purchase order should match the invoice
- Total net amount
- Tax amount. If multiple taxes (VAT/WHT) are applicable, the tax rate for every net amount should be specified
- Total payable amount
- For credit notes, invoice number being credited must be stated (one credit note per invoice)

Mailing Address (Where the invoices will be send for payment processing)

Ericsson Inc.
6300 Legacy Dr
Attn: Accounts Payable
Plano, TX 75024

Invoicing Address (Company name and address that will be written on the invoice)

Please enter the correct Ericsson Company Name:

- ERICSSON INC. (EUS)
- ERICSSON HOLDING II INC. (GEU)
- ERICSSON WIFI INC. (TNT)
- ERICSSON TELEVISION INC. (TTU)

Please enter the address on the invoice as stated in the Purchase Order.

NOTE: Soft copies, PDF etc, should be sent to ssc.dallas.ap@ericsson.com. Subject line should include PO number, vendor name and invoice number.